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EXAMINER	
DANG, HUNG Q	

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2621	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/586,116	HERPEL ET AL.	
	Examiner	Art Unit	
	Hung Q. Dang	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 08/13/2009 have been fully considered but they are not persuasive.

On page 6, Applicant argues that, "[w]ith regard to the Kieu et al. patent, applicants note that this reference deals only with video and does not concern itself whatsoever with regard to audio. In other words, Kieu et al. carry out picture insertion without considering the current audio content. Thus Kieu et al. does not teach nor would it suggest the need to control picture insertion to gain perceived lip-synch, (e.g., synchronization between audio and video content)."

In response, Examiner respectfully disagrees since one of ordinary skill in the art would recognize that reproduction of video images in synchronization with audio signals that are associated with the video to present characters' spoken dialog or thematic music corresponding to a given scene in the video signals should come hand in hand. Therefore, the problem of video-audio synchronization is very relevant in converting the video images as disclosed by Kieu. The fact that Kieu does not explicitly disclose any solution to solve that problem does not prevent one of ordinary skill in the art from recognizing that inserting video frames into a video sequence having a low frame frequency into a video sequence having a higher frame frequency could pose the problem of the output video sequence being out of sync with the associated audio. Therefore, incorporating a technique to keep the video and audio reproductions being synchronized with each other is necessary. Otherwise, after converted, the video

sequence will lose the video-audio synchronization and yield watching the video uncomfortable (viewers will see a speaker does not speak what is heard, for example).

Also on pages 7-8, Applicant argues, the Kellner's teaching is completely antithetical to the claimed feature of controlling frame insertion.

In response, Examiner respectfully disagrees. Kellner discloses a method for compensating delays in processing video data relative to the playback timing for the audio data by keeping the maximum picture content delay caused by the compensation irregularity smaller than average (see at least paragraphs [0016] and [0056]). Although, in order to achieve that, Kellner discloses dropping frames, one of ordinary skill in the art would recognize that in incorporating Kellner into Kieu's teachings, the frame insertions in Kieu should be compromised or controlled to keep the maximum picture content delay caused by the compensation irregularity smaller than average (instead of dropping frames, now only enough number of frames are inserted to achieve the effects).

On page 9, with respect to claim 5, Applicant argues that, "Greenberger et al. already know that speech currently exists. Applicants' claim 5 seeks to determine whether or not speech exists, an entirely different premise."

In response, Examiner respectfully disagrees. The speech in the center channel signal, as disclosed in Greenberger, is localized to the center by "subtracting the center channel signal from the left and right channel signals". Therefore, it is clear that, from Greenberger's teachings, the speech can be determined by evaluating whether the center channel shows the bursty energy distribution that is significantly different from

the energy distribution in the left and right channels. Specifically, if there is not much difference, then there is not much localization in the center or no speech exists. Otherwise, if there is significant difference, then there is significant localization of speech in the center or there is speech existing.

Other arguments from Applicant are moot in view of the discussion of Kieu and Kellner described above.

Therefore, the rejections stand as presented in details below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kieu et al. (US Patent 6,181,382 – hereinafter Kieu) and Kellner, Jr. et al. (US 2005/0084237 – hereinafter Kellner).

Regarding claim 1, Kieu discloses a method for controlling the insertion of additional fields or frames into a first format picture sequence having a first frame frequency in order to construct therefrom a second format picture sequence having a second frame frequency which is constant and greater than that of the first frame frequency of the first format picture sequence *(column 2, lines 53-60)*, said method including the steps: determining locations of fields or frames in said first format picture sequence at which locations the insertion of a corresponding additional field or frame

causes a minimum visible motion judder in said second format picture sequence *(column 4, lines 14-27)*; inserting in said first format picture sequence a field or a frame at some of said locations at non-regular field or frame insertion distances such that in total the average distance between any adjacent frames corresponds to that of said second format picture sequence *(column 4, lines 14-27, 42-47)*; presenting said first format picture sequence together with said non-regularly inserted fields and/or frames in the format of said second format picture sequence *(column 7, lines 35-42, 52-56)*, wherein said field or frame insertion locations in said first format picture sequence are controlled such that to insert fields or frames in case slowly moving or static scenes are detected *(column 3, lines 28-37)*.

However, Kieu does not disclose in order to gain perceived lip- sync in said second format picture sequence the maximum picture content delay caused by the insertion irregularity is kept smaller than average in case a slowly moving or static scene and speech in the audio information assigned to said first format picture sequence are detected.

Kellner discloses a method for compensating delays in processing video data relative to the playback timing for the audio data, wherein said field or frame compensation locations in said first format picture sequence are controlled such that in order to gain perceived lip- sync in the compensated picture sequence the maximum picture content delay caused by the compensation irregularity is kept smaller than average in case the audio information assigned to an input picture sequence is detected *([0016]; [0056])*.

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Kellner into the method disclosed by Kieu in order to maintain synchronization between video and audio data thus enhancing the quality of the presentation.

Claim 2 is rejected for the same reason as discussed in claim 1 above.

Regarding claim 7, Kieu also discloses wherein said field or frame insertion locations in said first format picture sequence are frames or fields that do not contain large moving picture content areas *(column 3, lines 28-37)*, the motion being determined by evaluating motion vectors *(column 3, lines 28-37)*.

Regarding claim 8, Kieu also discloses wherein said field or frame insertion locations in said first format picture sequence are frames or fields at which scene changes or a fade-to-black or a fade-to-white or a fade to any colour occurs *(column 3, lines 28-37)*.

Claims 3-4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kieu and Kellner as applied to claims 1-2 and 7-8 above, and further in view of Kato et al. (US Patent 6,240,245 – hereinafter Kato).

Regarding claim 3, see the teachings of Kieu and Kellner as discussed in claim 2 above. However, Kieu and Kellner do not disclose said apparatus comprising one of: an optical disc player, an optical disc recorder, a hard disk recorder, a personal computer, a set top box, or a TV receiver.

Kato discloses an apparatus with built-in converter comprising one of: an optical disc player, an optical disc recorder, a hard disk recorder, a personal computer, a set top box, or a TV receiver *(Fig. 1; column 5, lines 45-63)*.

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Kato into the apparatus disclosed by Kieu et al. and Kellner, Jr. et al. to convert the TV signals into formats that are compatible with display device so that the signals can be displayed accordingly.

Regarding claim 4, see the teachings of Kieu and Kellner as discussed in claim 2 above. However, Kieu and Kellner do not disclose said apparatus outputs either the original first format picture sequence or said second format picture sequence, which choice is controlled by replay mode information received either automatically from an interface that is connected to a device including a display device, or is received from a user interface.

Kato discloses an apparatus being an optical disc player or an optical disc recorder or a harddisk recorder or a settop box *(Fig. 10; Fig. 11)*, wherein said apparatus outputs either the original first format picture sequence or a second format picture sequence, which choice is controlled by replay mode information received either automatically from an interface that is connected to a device including a display device, or is received from a user interface *(column 5, lines 45-63; column 8, lines 13-29; column 15, lines 1-24; column 16, line 24)*.

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Kato into the apparatus disclosed by

Kieu and Kellner in order to output signals of various format, thus enhancing the interface of the apparatus.

Regarding claim 6, Kato also discloses wherein said first format picture sequence is stored or recorded on a storage medium, or is broadcast or transferred as a digital TV signal *(Fig. 1; column 5, lines 45-63)*.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kieu and Kellner as applied to claims 1-2 and 7-8 above, and further in view of Greenberger et al. (US Patent 5,708,719 – hereinafter Greenberg).

Regarding claim 5, see the teachings of Kieu and Kellner as discussed in claim 1 above. However, Kieu and Kellner do not disclose wherein speech in the audio information assigned to said first format picture sequence is detected by evaluating, in multi-channel audio, whether the centre channel relative to left and right channels shows a bursty energy distribution over time that is significantly different from the energy distribution in the left and right channels.

Greenberger discloses speech in the audio information assigned to a picture sequence is detected by evaluating, in multi-channel audio, whether the centre channel relative to left and right channels shows a bursty energy distribution over time that is significantly different from the energy distribution in the left and right channels *(column 5, lines 31-35; also see "Response to Arguments" above)*.

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Greenberger into the apparatus

disclosed by Kieu and Kellner to detect speech and process the data accordingly so that video signals can be synchronized with speech in the output signals.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kieu and Kellner as applied to claims 1-2 and 7-8 above, and further in view of Tsukagoshi (US Patent 5,563,660).

Regarding claim 9, see the teachings of Kieu and Kellner as discussed in claim 1 above. However, Kieu and Kellner do not disclose wherein the inserted fields or frames are motion compensated before being output in said second format picture sequence.

Tsukagoshi discloses the inserted fields or frames are motion compensated before being output in said second format picture sequence *(column 4, lines 22-25, 50- column 5, line 20; column 10, lines 23-33; column 10, line 60 - column 11, line 15; column 12, lines 27-37; column 16, lines 37-55)*.

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Tsukagoshi into the method disclosed by Kieu and Kellner so that the inserted field or frame can be displayed on the display device.

Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kieu and Kellner as applied to claims 1-2 and 7-8 above, and further in view of Kato et al. (US Patent 5,771,357 – hereinafter Kato II) and Settle et al. (US Patent 6,233,253 – hereinafter Settle).

Regarding claim 10, see the teachings of Kieu and Kellner as discussed in claim 1 above. However, Kieu and Kellner do not disclose said first format picture sequence is

an MPEG-2 picture sequence and wherein said inserting of fields or frames in said first format picture sequence is controlled by evaluating flags either for indicating temporal order of fields or for indicating repetition of the first field for display, which flags are conveyed in said first format picture sequence in a user data field for each picture.

Kato II discloses a first format picture sequence is an MPEG-2 picture sequence and wherein inserting of fields or frames in said first format picture sequence is controlled by evaluating flags either for indicating temporal order of fields or for indicating repetition of the first field for display, which flags are conveyed in said first format picture sequence for each picture *(column 2, lines 20-63; column 7, lines 45-56)*.

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Kato II into the method disclosed by Kieu and Kellner in order to make the method compatible with input signals encoded according to MPEG-2 standard.

However, Kieu, Kellner, and Kato II do not disclose the said flags are conveyed in a user data field.

Settle discloses the field display flags are conveyed in a user data field *(column 9, lines 15-17)*.

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate storing the flags in a user data field disclosed by Settle et al. into the method disclosed by Kieu, Kellner, and Kato II to implement various specific functions upon user's selection thus enhancing the interface of the apparatus *(Settle, column 9, lines 17-32)*.

Claim 11 is rejected for the same reason as discussed in claims 1 and 10 above.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Q. Dang whose telephone number is (571)270-1116. The examiner can normally be reached on IFT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THAI Q. TRAN can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hung Q Dang/
Examiner, Art Unit 2621

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